

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A process for production of a chlorinated polyolefin comprising a step of melting and kneading a polyolefin and then molding it to obtain a solid, a step of pulverizing the solid into powder having a mean particle size of no greater than 500 μm , and a step of chlorinating the powder.

2. (currently amended): A process for production of a chlorinated polyolefin comprising a step of melting and kneading a polyolefin and then molding it to obtain a solid, a step of pulverizing the solid into powder having a mean particle size of no greater than 500 μm , and a step of chlorinating the powder~~according to claim 1~~, wherein the chlorinating step further comprises a first step of chlorination at above the crystal melting start temperature and more than 10°C below the crystal melting peak temperature of the polyolefin starting material as determined by DSC, a second step of interrupting the chlorine supply and performing heat treatment by heating to a temperature which is higher than 5°C below the crystal melting peak temperature, and a third step of rechlorination at a temperature above the crystal melting start temperature of the chlorinated polyolefin after the heat treatment step.

3. (original): A process for production of a chlorinated polyolefin according to claim 1 or 2, wherein the polyolefin is polyethylene.

4. (original): A process for production of a chlorinated polyolefin according to claim 3, wherein the polyethylene is linear low-density polyethylene.

5. (previously presented): A process for production of a chlorinated polyolefin according to claim 3, wherein the density of the polyethylene is 0.90-0.93.

6. (previously presented): A process for production of a chlorinated polyolefin according to claim 3, wherein the polyethylene is polyethylene with a weight-average molecular weight (Mw) and number-average molecular weight (Mn) ratio (Mw/Mn) of no greater than 3.0 as measured by gel permeation chromatography.

7. (previously presented): A chlorinated polyolefin produced by a process according to claim 1 or 2, wherein the chlorinated polyolefin has a crystal heat of fusion of no greater than 30 J/g according to DSC.

8. (original): A chlorinated polyolefin according to claim 7, wherein the chlorine content is 15-45 wt%.

9. (previously presented): A chlorinated polyolefin according to claim 7, wherein the elongation based on a tensile test is 1500% or greater, and the glass transition temperature is no higher than -25°C.

10. (previously presented): A chlorinated polyolefin according to claim 7, wherein the chlorinated polyolefin is chlorinated polyethylene.

11. (previously presented): A chlorinated polyolefin crosslinkable composition comprising 100 parts by weight of a chlorinated polyolefin according to claim 7, 0.5-20 parts by weight of an acid acceptor, 10-80 parts by weight of a reinforcer, 0.5-10 parts by weight of a crosslinking agent and 5-70 parts by weight of a plasticizer.

12. (original): A crosslinked chlorinated polyolefin obtained by crosslinking a chlorinated polyolefin crosslinkable composition according to claim 11.

13. (original): A crosslinked chlorinated polyolefin according to claim 12, wherein the temperature at which the relative modulus (RM) = 2 by a cold flex test is no higher than -25°C.

14. (original): A crosslinked chlorinated polyolefin according to claim 12, wherein the temperature at which the relative modulus (RM) = 5 by a cold flex test is no higher than -40°C.

15. (original): A crosslinked chlorinated polyolefin according to claim 12, wherein the temperature at which the relative modulus (RM) = 10 by a cold flex test is no higher than -45°C.

16. (previously presented): An automobile boot or hose employing a crosslinkable composition according to claim 11.

17. (previously presented): An industrial hose, sheet or packing employing a crosslinkable composition according to claim 11.

18. (previously presented): An automobile boot or hose employing a crosslinked polyolefin according to claim 12.

19. (previously presented): An industrial hose, sheet or packing employing a crosslinked polyolefin according to claim 12.